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and/or hypodermis; wherein the administration of said composite results in the generation of the immunological response in said bovine.

- immunological response against a bovine pathogen comprising a plasmid that contains and expresses *in vivo* in a bovine host skin cell a nucleic acid molecule having a sequence encoding an immunogen of the said bovine pathogen, wherein the immunogenic composition is in a liquid jet intradermal administration apparatus that administers the immunogenic composition to the bovine: without a needle; and into the epidermis, dermis and/or hypodermis.
- 18. The method of claim 16, wherein the apparatus administers the composition at 1-10 points on the bovine.
- 19. The method of claim 16, wherein the apparatus administers the composition at 4-6 points on the bovine.
- 20. The method of claim 16, wherein the apparatus administers the composition at 5 or 6 points on the bovine.
- 21. The method of claim 16, wherein the apparatus administers the composition at 5 points on the bovine.
- 22. The immunogenic composition of claim 17, wherein the apparatus administers the composition at 1-10 points on the bovine.
- 23. The immunogenic composition of claim 17, wherein the apparatus administers the composition at 4-6 points on the bovine.
- 24. The immunogenic composition of claim 17, wherein the apparatus administers the composition at 5 or 6 points on the bovine.

BRSV G.

- 25. The immunogenic composition of claim 17, wherein the apparatus administers the composition at 5 points on the bovine.
  - 26. The method of claim 16, wherein the bovine pathogen is BRSV.
  - 27. The method of claim 16, wherein the bovine pathogen is IBR.
- 28. The immunogenic composition of claim 17, wherein the bovine pathogen is BRSV.
  - 29. The immunogenic composition of claim 17, wherein the bovine pathogen
- is IBR.

  30. The method of claim 26, wherein the nucleic acid molecule encodes
- 31. The method of claim 26, wherein the nucleic acid molecule encodes BRSV F.
- 32. The method of claim 27, wherein the nucleic acid molecule encodes IBR gB.
- 33. The immunogenic composition of claim 28, wherein the nucleic acid molecule encodes BRSV G.
- 34. The immunogenic composition of claim 28, wherein the nucleic acid molecule encodes BRSV F.
- 35. The immunogenic composition of claim 29, wherein the nucleic acid molecule encodes IBR gB.
- 36. A method for vaccinating a bovine against a bovine pathogen comprising administering into the epidermis, dermis and/or hypodermis of the bovine a vaccine that comprises a plasmid that contains and expresses *in vivo* in a bovine host skin cell a nucleic acid

molecule having a sequence encoding an immunogen of said bovine pathogen, by a liquid jet intradermal administration apparatus that administers the vaccine to the bovine: without a needle; and into the epidermis, dermis and/or hypodermis, wherein the administration of said vaccine results in the generation of an immunological response in said bovine.

- 37. A vaccine against a bovine pathogen comprising a plasmid that contains and expresses *in vivo* in a bovine host skin cell a nucleic acid molecule having a sequence encoding an immunogen of said bovine pathogen, wherein the vaccine is in a liquid jet intradermal administration apparatus that adminsters the vaccine to the bovine: without a needle; and into the epidermis, dermis and/or hypodermis.
- 38. The method of claim 36, wherein the apparatus administers the composition at 1-10 points on the bovine.
- 39. The method of claim 36, wherein the apparatus administers the composition at 4-6 points on the bovine.
- 40. The method of claim 36, wherein the apparatus administers the composition at 5 or 6 points on the bovine.
- 41. The method of claim 36, wherein the apparatus administers the composition at 5 points on the bovine.
- 42. The vaccine of claim 37, wherein the apparatus administers the composition at 1-10 points on the bovine.
- 43. The vaccine of claim 37, wherein the apparatus administers the composition at 4-6 points on the bovine.
- 44. The vaccine of claim 37, wherein the apparatus administers the composition at 5 or 6 points on the bovine.

- 45. The vaccine of claim 37, wherein the apparatus administers the composition at 5 or 6 points on the bovine.
  - 46. The method of claim 36, wherein the bovine pathogen is BRSV.
  - 47. The method of claim 36, wherein the bovine pathogen is IBR.
  - 48. The vaccine of claim 37, wherein the bovine pathogen is BRSV.
  - 49. The vaccine of claim 37, wherein the bovine pathogen is IBR.
  - 50. The method of claim 46, wherein the nucleic acid molecule encodes

BRSV G.

51. The method of claim 46, wherein the nucleic acid molecule encodes

BRSV F.

52. The method of claim 47, wherein the nucleic acid molecule encodes IBR

gB.

53. The vaccine of claim 48, wherein the nucleic acid molecule encodes

BRSV G.

54. The vaccine of claim 48, wherein the nucleic acid molecule encodes

BRSV F.

55. The vaccine of claim 48, wherein the nucleic acid molecules encodes IBR

gB.

56. A liquid jet intradermal administration apparatus that administers a composition to an animal: without a needle, and into the epidermis, dermis and/or hypodermis; wherein the apparatus includes an immunogenic composition for inducing in a bovine host an immunological response against a bovine pathogen comprising a plasmid that contains and

expresses in vivo in a bovine host skin cell a nucleic acid molecule having a sequence encoding an immunogen of the said bovine pathogen.

- 57. The apparatus of claim 56, wherein the apparatus administers the composition at 1-10 points on the animal.
- 58. The apparatus of claim 56, wherein the apparatus administers the composition at 4-6 points on the animal.
- 59. The apparatus of claim 56, wherein the apparatus administers the composition at 5 or 6 points on the animal.
- 60. The apparatus of claim 56, wherein the apparatus administers the composition at 5 points on the animal.
  - 61. The apparatus of claim 56, wherein the bovine pathogen is BRSV.
  - 62. The apparatus of claim 56, wherein the bovine pathogen is IBR.
  - 63. The apparatus of Jaim 56, wherein the bovine pathogen is BRSV.
  - 64. The apparatus of claim 56, wherein the nucleic acid molecule encodes

BRSV G.

65. The apparatus of claim 56, wherein the nucleic acid molecule encodes

BRSV F.

66. The apparatus of claim 56, wherein the nucleic acid molecule encodes IBR

gB.

67. The vaccine of claim 50 wherein the nucleic acid molecule encodes

BRSV G. --